

DHIRUBHAI AMBANI INTERNATIONAL SCHOOL



DHIRUBHAI AMBANI
INTERNATIONAL SCHOOL

January Test 2015

Name:	Batch:
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Biology

January 2015

Class 8 B/C

Full marks: 35

TIME: 40 minutes

Multiple Choice Grid

Question No.	Answer
1	C
2	A
3	C
4	B
5	C

Question	Total Marks	Mark
Section A	5	
Section B	30	
Total	35	
%		
Grade		

Section A

For each multiple choice question, choose the answer you consider to be the best and write it in the grid provided on the cover page.

1. What is the correct term for the removal from organisms of toxic waste materials of metabolism?

A egestion	B defecation
C defecation	D urination

2. Which structure is found in *all* living cells?

A cell membrane	B chloroplast
C starch grains	D cell wall

3. What describes emphysema?

A the airways get blocked	B cilia is damaged
C mucus build up	D alveolar walls get damaged

4. What is the gas exchange surface in a human?

A surface of a red blood cell
B surface of alveoli
C surface of left ventricle in the heart
D surface of trachea and bronchi

5. Why do you continue to breathe faster after finishing strenuous exercise?

A to deliver extra glucose to the muscles
B to keep the heart beating strongly
C to supply oxygen to break down lactic acid
D to supply tired muscles with extra energy

Section B: Structured Questions. Answer in the spaces provided.

Q1. Fig 1.1 shows the respiratory system of a human being.

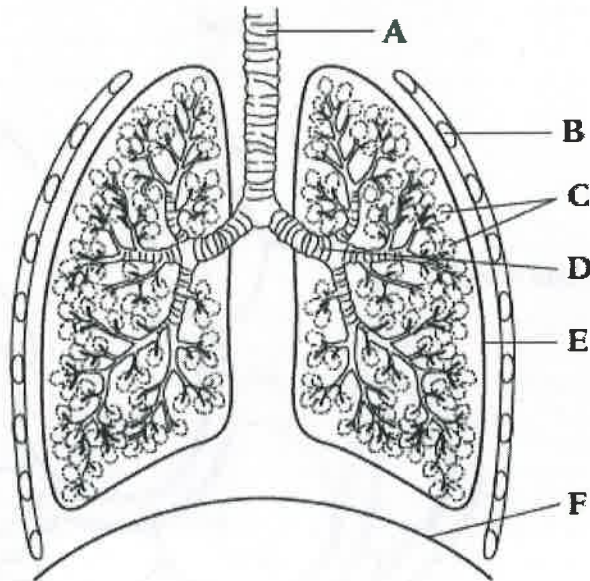


Fig 1.1

(a) (i) Write down the letters **A–F**. Write the name of the part corresponding to each letter.

- A *Trachea*
B *Ribs*
C *Alveoli*
D *Bronchus*
E *Pleural membrane*
F *Diaphragm*

[3]

(ii) Describe how the process of inspiration (breathing in) takes place in a mammal.

- Contraction of diaphragm muscles / flattens diaphragm;*
Contraction of intercostal muscles;
Causing rib cage to rise upwards / outwards;
Volume of lungs increase;
Pressure in lungs drops;

[4]

(b) Fig 1.2 shows an air sac from a lung.

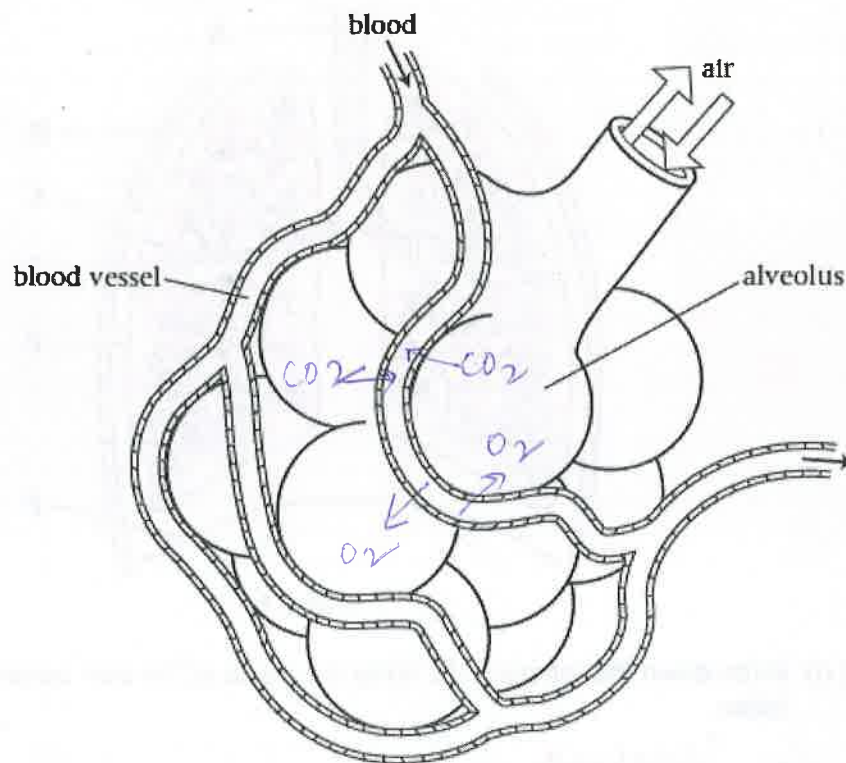


Fig 1.2

- (i) On the diagram, draw a labelled arrow showing which direction oxygen particles are going. [1]
- (ii) On the diagram, draw a labelled arrow showing which direction carbon dioxide particles are going. [1]
- (iii) ^{state} Describe two ways in which alveoli is adapted to speed up the diffusion of gases above.

large surface area,
thin lining,
Covered by a film of moisture; (any 2) [1]

[Total : 10]

2. Michael and Bhavesh wanted to find out if exercise affected their breathing rates. They measured their breathing rates before a race and every minute afterwards until their rates returned to normal again. Their results are shown in the Table 2.1.

Table 2.1

Name	Breathing rate (breaths per minute)						
	Before race	Time after finishing the race (minutes)					
		1	2	3	4	5	6
Bhavesh	12	30	22	15	12	12	12
Michael	14	38	27	22	17	14	14

- (a) Plot their results on Fig 2.1.

Title : *appropriate title mentioning both the variables* [1]

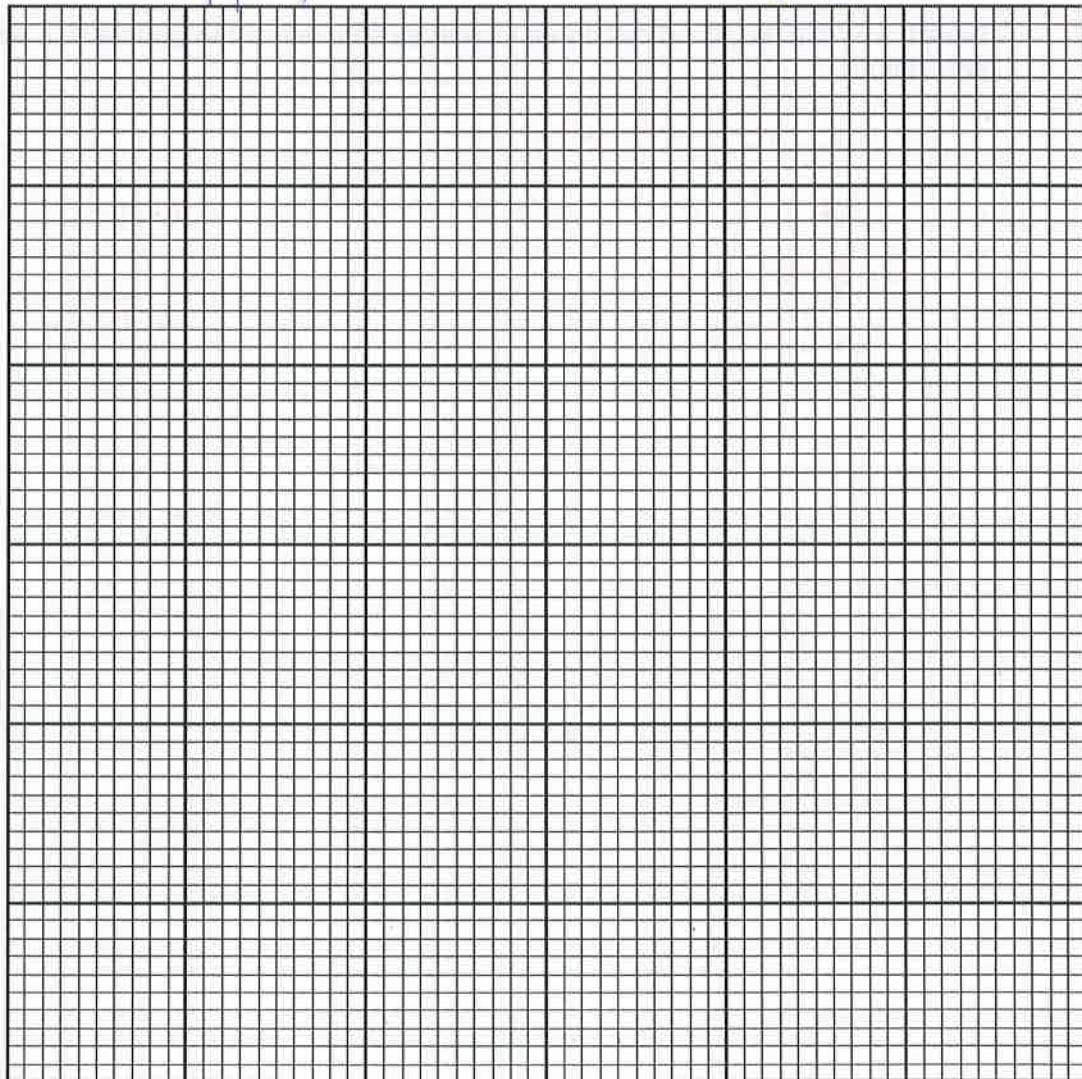


Fig 2.1

[6]

X axis labelling - [1]

Y " " [1]

appropriate scale [1]

5

correct plotting Bhavesh [1]

" " Michael [1]

(b) (i) Who do you think was the fittest, Bhavesh or Michael?

Bhavesh.....[1]

(ii) Give reasons for your answer in b (i) ?

Bhavesh's ~~rest~~ breathing rate returned to resting levels in 4 minutes while Michael took 5 minutes. [1]

When people who have lived all their lives at low altitude go to a place at high altitude, such as Lhasa, they are often breathless, lack energy and suffer from altitude sickness. However, with time, they often acclimatise to the high altitude. In another study, researchers found that the red blood cell count increases in such people by about 30% over several weeks.

Explain why the red blood cell count increases so much when people visit places at high altitude.

lesser availability of oxygen;
to provide enough amount of oxygen to
respiring tissues;
more RBC's means more Hb; [2]

[Total : 12]

3. A study was carried out on a large number of people, some of whom were smokers. The study investigated the link between percentage of deaths due to lung cancer in smokers and their smoking habits. The age at which they started smoking and the number of cigarettes smoked per day were recorded. The results of the study are shown in Fig. 3.1.

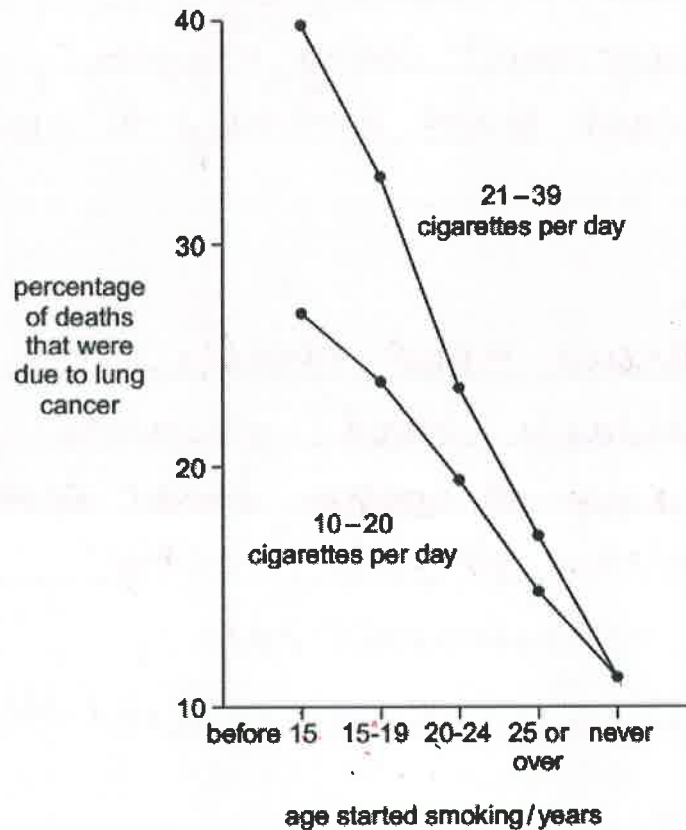


Fig 3.1

- (a) ^{Describe} Explain what the results in Fig. 3.1 show about the link between cigarette smoking and percentage of deaths due to lung cancer.

→ People who never smoked have lowest % of deaths;
 → The younger a person starts smoking, higher chances of death / or older person starts lower % of deaths;
 → increasing number of cigarettes smoked a day increases chances of death;
 → accept figures / data for maximum 2 marks;

(b) Tar [1]

(b) Tobacco smoke contains many substances which are harmful to the body.
Outline the harmful effects on the cardiovascular system of:

(i) carbon monoxide

binds to Haemoglobin ;
They can't carry ^{much} oxygen ;
heart beats quickly to pump more blood ;
.....[2]

[any 2]

(ii) nicotine.

Narrows blood vessels ;
increases blood pressure ;
~~increases the risk of heart disease~~ [any 2]
makes platelets 'Sticky'[2]

increases heart rate ;
increases chances of blood clotting ;

[Total : 8]